

REMARKS

The claims are 1 to 24. All claims stand rejected. Claims 2 and 16 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. In addition, Claims 1 to 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent 5,302,679 to Maandi and Rich, in combination with United States Patent 4,692,988 to Shulver, Misselbrook and Standen, and U.S. Patent Publication 2002/0195592 to Geer and Hawkins.

It is the Examiner's position that Claims 2 and 16 are vague and indefinite with respect to the fastener being removable from the orifice responsively to at least one of a specific torque and heat. The Examiner finds it unclear how removing the fastener prevents galvanic corrosion of the coated fastener, once the fastener has been coated with the inhibitor and with the anaerobic composition. The Examiner has questioned why someone would want to remove the already coated fastener unless it were to initially coat the fastener. The Examiner has questioned the need for this removal step and requested clarification.

With respect to the Section 103(a) rejections, the Examiner views United States Patent 5,302,679 to Maandi and Rich as disclosing an adhesive composition capable of post-cure expansion comprising a methacrylate and a maleimide that are capable of effectuating expanding upon post-cure. The patent further discloses a method of adhesively joining parts together, and certain additives, such as free radical initiator

accelerators, plasticizers, and thickeners, which do not interfere with the expansion of the cured composition, can be included. The Examiner recognizes that the primary reference does not disclose the addition of a corrosion inhibitor or require that the metals be dissimilar.

The Examiner cites United States Patent 4,692,988 to Shulver, Misselbrook and Standen as disclosing a method of protecting mating screw threads under tightening torques by use of a molybdenum disulphide dry lubricant applied to one screw thread and a liquid lubricant applied to the other screw thread. The liquid lubricant is not a solvent for the dry film, and is a low viscosity material such as a fluorocarbon, and may incorporate a corrosion inhibitor.

Finally, the Examiner has cited United States Patent Publication 2002/0195592 to Geer and Hawkins as disclosing a cathodic coating for ferrous and nonferrous metal substrates.

These rejections are, respectfully, traversed in their entirety for the reasons which follow.

With respect to the rejections under § 112, Applicants see no confusion. The ability of the fastener to be removed is merely a further description of the fastener, not an element in the method of protecting the fastener from galvanic corrosion. The Examiner is respectfully solicited to review his rejection in this light.

With respect to the rejections under § 103(a), it appears that the Examiner has taken the position that the primary reference admits of special purpose additives, and the present invention is viewed to be obvious because a special purpose additive has been added to limit corrosion. One of the secondary references shows the element added to limit corrosion in the instant system, and speaks to the limiting of corrosion, while the other secondary reference appears to be cited only to show that galvanic corrosion can be limited.

The difficulty with the Examiner's position is that nothing in the art cited discloses or suggests that corrosion, galvanic corrosion, can be limited or prevented in an environment of fasteners of dissimilar metals using the elements of the present invention.

The Examiner has cited United States Patent 5,302,679 to Maandi and Hillas disclosing an anaerobic composition that expands after the fastener of the present invention is inserted into the dissimilar metal orifice of the present invention. The reference does indeed show the anaerobic composition, but in a very different environment. The compositions of the reference are employed in an environment in which the metals are similar, and galvanic corrosion is not a problem. Yes, the reference admits of special purpose additives to meet special needs, but that does not include the fashioning of a new composition to meet an entirely different need and used in an entirely different environment.

Nor does the secondary reference, United States Patent 4,692,988 to Shulver, Misselbrook and Standen, which does shows the corrosion inhibitor of the present invention, show that element exhibiting the prevention or limitation of galvanic corrosion in the environment of the present invention. In fact, the corrosion inhibitor of the present invention, a dry film of molybdenum disulphide, is not described as the corrosion additive in the reference. Rather, the reference speaks of a corrosion inhibitor being added to the liquid lubricant which is combined with the molybdenum disulphide. The teachings of this reference are not intended to be applied in an environment of dissimilar metals, and the corrosion addressed is not the galvanic corrosion of dissimilar metals.

The citation of United States Patent Publication 2002/0195592 to Geer and Hawkins is not understood to be relevant. While this reference is concerned with corrosion, it teaches the complex application of a conductive polymeric film, having anodic metal particles, to prevent corrosion of a surface. This very different method of limiting corrosion is not intended to be applied in a fastener and orifice environment of dissimilar metals. The citation of this reference, and the applicability of its teachings to the present invention, is questionable.

It is not seen that the Examiner has shown the elements of the present invention in the cited art in any way that someone skilled in the relevant art would recognize those elements as having the properties which they exhibit in the present invention. Nor would someone skilled in this art strip those elements away from the compositions in which they

are employed and combine them for use in a very different environment and expect that they would solve a problem unique to that environment.

The Examiner is expressly solicited to reconsider and reverse the present rejections. The claims, as they are presently written, are submitted to be patentable over the art, and allowance is requested.

WHEREFORE, in consideration of the above amendments and arguments,

reexamination and allowance are respectfully requested.

Respectfully,

/Robert Charles Beam/
Robert Charles Beam, Esq.
Reg. No. 28,182
Attorney for Applicant
(973) 724-3411

Mailing Address:
U.S. Army ARDEC
Attn: AMSRD-AAR-GC
R. Beam / Building 3
Picatinny Arsenal
New Jersey 07806-5000